

REMARKS

Claims 1 through 20 are pending in the application, of which claims 11 through 20 have been withdrawn from consideration. Claims 1 through 10 have been rejected by the Examiner.

Examiner's request for information

The Examiner has stated that "[since] the number of cited references is large, applicant is required to list the ten he considers most relevant." In response, the Applicant is listing the ten most recent references, A33 through A42 of the Information Disclosure Statement filed on December 30, 2003. It is believed that these references are most appropriate because they cite earlier references, therein.

Rejection under 35 U.S.C. §102

Claims 1-6 and 8-10 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. 6,137,650 (Heine *et al.*). Applicants respectfully traverse this rejection. The Examiner has stated "[t]he examiner finds all claimed subject matter to be present [in Heine *et al.*]. See front page Fig [Figure 3] and capillary near 104." However, Heine *et al.* does not teach or suggest the Applicant's embodiment as recited in claim 1. The alleged capillary 104 of Heine *et al.*'s Figure 3 actually is a journal bearing section, e.g. "Generally speaking the top and bottom gap section[s] 8,7 and 1,2 comprise journal bearings defined by parallel axial walls 150, 152 and 154,156 of the shaft 100 and sleeve 102 respectively" (Heine *et al.*) 5:43-46. Thus alleged capillary 104 is actually the top journal bearing sections 8,7. Heine *et al.* continue, "Bearings 2,7 and 8 are generally symmetrical, i.e., they are not designed to generate a net flow or pressure in either direction. Claim 1 of the pending application recites "a second gap region between the horizontal body portion of the hub and sleeve...and an oil pumping groove pattern disposed at least partially along the second gap, the oil pumping groove pattern impelling oil toward the shaft when the shaft portion of the hub is rotated within the sleeve." Heine *et al.*'s bearings 7 and 8 do not pump oil so as to impel oil toward a shaft portion. Moreover Heine *et al.*'s bearings 7 and 8 do not comprise a "second gap region between the horizontal bearing portion of the hub and sleeve" as recited in the Applicant's claim 1, but comprise a vertical bearing portion of spindle and hub.

Other candidates to consider in Heine *et al.*'s Figure 3 are thrust bearing sections labeled 6 and 4. However Heine *et al.* teaches that "[a] thrust bearing 202 defined by radial walls 205, 205 of the shaft and counter plates 206, 207 of the sleeve 102, is incorporated adjacent one journal bearing 7,8... [the] thrust bearing sections 4,6 typically have grooves which create no net pumping action" (5:52-58). Once again Heine *et al.* fails to teach or suggest "a second gap region between the horizontal body portion of the hub and sleeve...and an oil pumping groove pattern disposed at least partially along the second gap, the oil pumping groove pattern impelling oil toward the shaft when the shaft portion of the hub is rotated within the sleeve," as recited in the Applicant's claim 1.

In fact, the only oil pumping bearing taught by Heine *et al.* is the journal bearing labeled 1 in Figure 3, of which Heine *et al.* teaches "bearing section 1 is non-symmetrical i.e. the grooves are defined to create a net pressure away from seal 106 and the gap in which it is defined to lessen the likelihood that any fluid will escape from the gap" (5:48-52). This journal bearing section is clearly not "a second gap region between the horizontal body portion of the hub and sleeve," comprising a dynamic radial capillary seal as recited in the Applicants claim 1, rather it is an axial pumping seal. The relative advantages of a dynamic radial capillary seal can include, among others: (i) the use of minimum axial space so that the length of journal bearing(s) can be increased; (ii) improved shock resistance; and (iii) an enlarged lubricant fluid reservoir for longer operational life.

In view of at least the above arguments, the Applicant believes that claim 1 is in immediate condition for allowance. And as claims 2 through 10 depend directly or indirectly on claim 1, the Applicant likewise believes that these claims are also in condition for immediate allowance.

Rejection under 35 U.S.C. §103

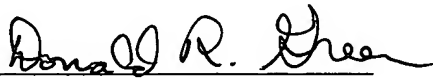
Claims 7 and 9 were rejected under 35 U.S.C. § 103 as allegedly unpatentable over Heine *et al.* as set forth in the rejection of claims 1-6 and 8-10 under 35 U.S.C. § 102, and in view of *In re. Kuhle*, 526 F.2d 553 USPQ 7 (CCPA 1975). Applicants respectfully traverse this rejection, because claim 1, upon which claims 7 and 9 depend, is believed to be in condition for immediate allowance as discussed above.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 146712015100. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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